Preterm Prelabor Rupture of Membranes At 34-37 Weeks: Conservative Versus Active Management

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ABSTRACT

Objective
To compare the fetal and maternal morbidity in terms of fetal distress, chorioamnionitis and mode of delivery in conservative and active management of preterm prelabor rupture of membranes (PPROM) at 34-37 weeks of pregnancy.

Study design
Quasi experimental study.

Place & Duration of study
Department of Obstetrics and Gynaecology, Bahawal Victoria Hospital, Bahawalpur from January 2007 to December 2007.

Methodology
A total of 100 cases were included in the study and divided into two groups of 50 each. Group “A” patients were managed conservatively and group “B” underwent active management with immediate induction of labor.

Results
Eighteen (18%) patients developed chorioamnionitis. Out of these 13 (26%) were in conservatively managed group and 5 (10%) in actively managed group. Twelve (12%) patients developed fetal distress, 7 (14%) in conservatively managed group and 5 (10%) in actively managed group. A total of 20 (20%) patients underwent cesarean section. Out of these 11 (22%) were from conservatively managed group and 9 (18%) from actively managed group.

Conclusions
Induction of labor at presentation is a better option than conservative management in terms of chorioamnionitis but the results are not significantly different for the fetal distress and mode of delivery.

Key words
Fetal distress, Chorioamnionitis, Preterm rupture of membrane.

INTRODUCTION:
Preterm prelabor rupture of membranes is defined as rupture of the fetal membranes at least one hour prior to the onset of labor at less than 37 completed weeks of gestation. PPROM is an important clinical problem and a dilemma for the gynecologist. PPROM complicates up to 2% of all pregnancies and is the cause of 40% of all preterm births.1,2 The optimal management of women with PPROM prior to 37 weeks is not known. Intact fetal membranes with normal amniotic fluid are necessary for normal fetal growth and development.3 Membranes also serve as a barrier that separates the sterile fetal environment from the bacteria colonized in vagina. PPROM is the leading cause of the preterm birth and perinatal morbidity with tremendous socio-economic impact in society.4 In the US, preterm births account for 12% of all births, 75% of all neonatal mortality and 50% of long-term neurological impairment in children, 33% of healthcare spending on infants and 10% of spending on children.5

There are two options for managing PPROM, expectant management (a wait and see approach) or early planned birth. On the one hand, awaiting spontaneous labor increases the probability of
monitoring of mothers and fetuses was done every
In conservatively managed group continued clinical
protocols.
managed conservatively and in group B active
slips bearing letter “A” and “B”. Group A was
consent was taken from study participants. The
examination and investigations. Merits and demerits
Diagnosis was established on the basis of history,
also excluded. The demographics were noted.
sections, malpresentation or placenta previa were
for vaginal delivery i.e. having cephalopelvic
diabetes and patients who were not fit candidates
eclampsia, antepartum hemorrhage, maternal
who were not suitable for conservative management
complication were noted for each group and
The mode of delivery and any maternal or fetal
In actively managed group, the patients were
informed at initial consultation that induction of labor
might be associated with failure where emergency
cesarean section would have to be performed. The
patients were subjected to induction of labor at the
time of presentation with intravenous oxytocin
infusion until patient delivered or developed any
maternal or fetal complications. The infusion was
set up and dose doubled every 30 minutes and
titrated against the uterine activity till 3-4 moderately
severe painful contractions observed. Continued
clinical monitoring of the mother and the fetus was
performed. Maternal pulse, temperature and color
of liquor maintained four hourly. Monitoring of uterine
contraction and fetal heart rate auscultation with
the help of CTG were done every half hour.

RESULTS:

Hundred patients of PPROM at 34-37 weeks were
included in the study. Chorioamnionitis was
diagnosed in 13 cases (26%) in conservatively
managed group, and in 5 cases (10%) of actively
managed group (p - 0.037). Seven women (14%)
in the conservatively managed group developed
fetal distress as compared to 5 women (10%) of
actively managed group (p - 0.538).

Eleven cases (22%) in the conservatively managed
group ended up in cesarean delivery. Out of those
5 (10%) were performed due to chorioamnionitis, 3
(6%) due to fetal distress and 3 (6%) due to both
complications. Nine cases (18%) in the actively
managed group were delivered by cesarean section.
Out of those 3 (6%) were due to chorioamnionitis,
3 (6%) due to fetal distress and 1 (2%) due to both
complications. Two (4%) cesarean sections were
performed due to failed induction of labor (p - 0.617).

The gestational period between 34-37 weeks is the
most controversial period. During period fetal lungs are
not mature enough to allow induction of labor without
the risk of acute respiratory distress syndrome. Fetus is also not that premature to bear
the risks of PPROM. This study was conducted to
provide evidence on the optimal care for women
with PPROM close to term (34–37 weeks gestation)
especially in our circumstances where the neonatal
facilities are not up to the mark.

METHODOLOGY:
A quasi experimental study was conducted with the
objective of comparing the fetal and maternal
morbidity and mode of delivery in conservative and
actively managed PPROM at 34-37 weeks of
pregnancy. All pregnant patients in Obstetrics and
Gynecology department BVH, admitted with the
complaint of watery discharge per vaginum
constituted the study group. Patients with advanced
labor and those with already developed
complications of PPROM were excluded. Patients
who were not suitable for conservative management
i.e. intra uterine fetal death or pre eclampsia,
eclampsia, antepartum hemorrhage, maternal
diabetes and patients who were not fit candidates
for vaginal delivery i.e. having cephalopelvic
disproportion, previous two or more cesarean
sections, malpresentation or placenta previa were
also excluded. The demographics were noted.
Diagnosis was established on the basis of history,
examination and investigations. Merits and demerits
of the study were explained and their written informed
consent was taken from study participants. The
patients were allocated to groups randomly by
offering them to pick up any one of the two folded
slips bearing letter “A” and “B”. Group A was
managed conservatively and in group B active
management planned according to the following
protocols.

In conservatively managed group continued clinical
monitoring of mothers and fetuses was done every
Thirty nine gravida out of 50 (78%) women managed conservatively achieved vaginal delivery while 41 cases out of those 50 who were managed actively gave vaginal birth to their babies (p - 0.617).

DISCUSSION
Preterm prelabor rupture of the membranes is an important clinical problem and a dilemma for the obstetricians. On the one hand, awaiting spontaneous labor may lead to an increase in infectious disease for both mother and child, on the other hand induction of labor leads to preterm birth with an increase in neonatal morbidity due to prematurity. Prelabor rupture of the membranes occurs in 2% of all births and 40% of all preterm births.9,10,11 When prelabor rupture of the membranes occurs at term (PROM) there is good evidence that early delivery is associated with a lower incidence of maternal infection and increased maternal satisfaction compared with expectant management.12

PPROM near term is a management dilemma. Following membrane rupture the preterm fetus is at risk of a number of complications such as prematurity, placental abruption, ascending infection, intrapartetal fetal distress and cord prolapse.12,14 Abruption of placenta complicates pregnancy for 5–6% of women with PPROM.15 Histological chorioamnionitis is more common in women with pregnancies complicated with PPROM compared with preterm or term controls.16 Infection is the main risk for women in whom management is expectant. These risks need to be balanced against the attendant risk of iatrogenic prematurity, if early delivery is planned.

At extreme preterm gestations (less than 30 weeks), in the absence of maternal or fetal compromise, there is unanimity that expectant management allows further fetal maturation and is desirable.17 This is because the preterm fetus born prior to 30 weeks has increased risk of on neonatal mortality, intraventricular hemorrhage, hyaline membrane disease and necrotizing enterocolitis. These risks, associated with immaturity, are reduced as the gestational age extends beyond 30 weeks.18 At gestations nearer to term, it is uncertain, whether the fetus gains any benefit of pregnancy prolongation following PPROM. By 34 weeks it has been suggested that there is no extra benefit for the fetus in the face of risks of intrauterine infection.

Decisions to electively deliver a fetus preterm however, requires grounding in good clinical evidence as mild prematurity is associated with a significant health burden.13 On the other hand expectant management means mothers are often hospitalized for prolonged periods with the consequent implications. There has been an Increasing trend towards the active management of the patient of PPROM after 34 completed weeks. Results of this study confirms the results of other recent large studies like that of Mercer BM et al and demonstrates that active management is a better option when compared to conservative management and can be an option for the patients who opt for this treatment modality.

Infection of placenta and membranes i.e. chorioamnionitis is a feared complication of PPROM and the rationale for treatment with induction of labor is largely to avoid infection. Chorioamnionitis rate was lower in actively managed group (10%) as compared to conservatively managed group (26%). Results are comparable to many studies.13,14

CONCLUSION:
In PPROM at 34 -37 weeks, active management reduces the risk of chorioamnionitis without reducing the rate of cesarean section and fetal distress therefore it is the preferred mode of management.

REFERENCES:
6. O'Brien JM, Barton JR, Milligan DA. An aggressive interventional protocol for early


